DOCUMENT RESUME

ED 195 989 CS 005 813

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TITLE Teachers' Analyses of Strategies Employed in Miscomprehension.
PUB DATE Dec 80
NOTE 19p.: Paper presented at the Annual Meeting of the American Reading Conference (1st, Sarasota, FL, December 4-6, 1980).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Elementary Secondary Education; *Error Analysis (Language); Informal Reading Inventories; *Reading Comprehension; *Reading Research; *Teacher Response; Test Validity
IDENTIFIERS *Schema Theory

ABSTRACT

Two groups of teachers testing with two different informal reading inventories were asked to give explanations for the miscomprehensions of two of their students (selected because of difficulty with comprehension unrelated to word recognition). Teacher explanations reflected diversity in description with the reader's lack of knowledge of key vocabulary most identifiable and consonant with schema theory. Other explanations for miscomprehension based on the schema theory were less frequently used, but all appeared to have some usefulness. Teachers also cited word recognition difficulties, individual reader characteristics, and the kind of question miscomprehended as explanations for miscomprehension. A large number of explanations lacking in specificity were also offered. (Author/FL)

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Teachers' Analyses of Strategies Employed in Miscomprehension

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Teachers' Analyses of Strategies Employed in Miscomprehension

Durkin (1978-79) in a search of the literature was unable to find an adequate definition of comprehension instruction for her classroom observational studies. She does differentiate the asking of questions in the classrooms she observed from instruction for the following reason: "Rarely . . . was anything done with wrong answers except to say that they were wrong" (p. 490). If classroom teachers are able to use "wrong" answers as a diagnostic and/or instructional tool, analysis of students' disabling comprehension strategies is a critical step.

That students use identifiable reading reasoning strategies has been suggested by research with third grade students verbalizing answers to a silent reading test (Bowling, Noel & Laffey, 1977) and average and above average sixth grade students as they verbalized while selecting among multiple choice comprehension items (Kavale & Shreiner, 1979). The necessity of relating reading performance to the specific reading task is highlighted by Blaricom & White (1976); they found "substantial differences" in fifth-grade students' ability to generate acceptable responses to main idea questions and their ability to select a correct response.

Strange (1980) proposes the term "miscomprehension", from the term 'miscue' for 'inexact oral responses,' to analyze what students do when responding to stories read. His explanations for miscomprehension are based on a schema theory of comprehension which "seeks" to explain how new information acquired while reading

is meshed with old information already in our heads" (p. 393).

This study was designed to provide information on classroom teachers' analyses of reading reasoning strategies employed by their students that they characterized as experiencing comprehension difficulties unrelated to word recognition difficulties. Researchers disagree on the importance of accurate and rapid word recognition on comprehension (Cromer, 1970: Fleisher, Jenkins, & Pany, 1979: Gutherie, 1973: Kendall & Hood, 1979; Perfetti & Hogaboam, 1975). In the researcher's experience, classroom teachers frequently express perplexity when designing instruction for students evidencing comprehension difficulties but who appear to have adequate word recognition. Also, eliminating word recognition difficulty as an explanation for miscomprehension in the study was thought to foster a greater focus on reasoning strategies.

Testing of students in their own classrooms by their regular reading teacher was planned to provide a naturalistic setting. From working with these students on a continuing basis, teachers should readily identify subjects with comprehension difficulties appropriate for the study.

The Study

Teachers initially asked to gather data for the study were graduate students participating in the Right-to-Read consortium classes at Alabama A & M University. During the period April 21-May 2, 1980 that data were gathered, they were completing nine semester hours of course instruction in reading methods. Through a

handout, teachers were asked to gather data according to the following steps.

1. Identify two students you would characterize as having reading comprehension difficulty that appears unrelated to word recognition difficulties.
2. Tell the student that you want him to read some stories aloud and you will ask him some questions. Explain that you want him to think out loud as he answers and that you will ask him how he knew answers. You want him to try to answer every question and you cannot pronounce any words for him. Try to elicit enough information to make a judgement regarding the reasoning strategies the student is using to answer questions. If the student refuses to attempt questions and/or provide feedback on the strategies being used, select another student. Probe some "correct" as well as "incorrect" answers to insure cooperation.
3. Tape record the administration of the informal reading inventory, including word lists. Record the student's oral reading errors and exact answers to questions as you test. This may be modified as you listen to the recording later. (Audio recording was planned to provide an accurate record and to better insure teachers' accurate and careful analyses of their students' responses.)
4. Continue testing until the student reaches frustration level on two successive passages. If the student's difficulty is comprehension unrelated to word recognition difficulty, these

levels should be frustration levels because of comprehension error criteria rather than word recognition criteria.

5. Using the recording, write an exact transcription of the interaction between you and the student. Following each comprehension question missed, write your own analysis of why the student miscomprehended. In a summary statement, determine if a pattern of miscomprehension strategies is evident.
6. Finally, list instructional strategies you would employ to help this student with identified comprehension difficulties. (This paper focuses on instructional strategies only as they relate to the teacher's analysis of miscomprehension strategies.)

Because of the exploratory nature of the research and an interest in the miscomprehension strategies that might be generated by classroom teachers as they analyzed the responses of their own students, the miscomprehension explanations suggested by Strange (1980) were not presented to teachers. As noted, however, miscomprehension terminology was used in the directions. Teachers in the study did have a basic familiarity with miscue analysis (Goodman & Burk, 1971). Discussion with the teachers gathering data was limited to questions regarding procedure for gathering data.

The informal reading inventory (IRI) administered was the Auburn Informal Reading Survey (AIRS) (Noland, 1974). This same IRI was used by the teachers in the fall when gathering required data on instructional levels of students in their classrooms.

Some form of analysis of students' comprehension was provided by 23 of the 26 teachers on 45 students at the following grade levels: Four students in first grade, seven students in second grade, fifteen students in third grade, four students in fourth grade, nine students in fifth grade, one student in each of the grades sixth, eighth, and ninth, and three students in seventh grade.

Findings in these data suggested the need for further data collection with another IRI. Through the analysis of a large number of responses to questions on the AIRS, certain test questions appeared to be non-discriminating with these students. On the first grade selection, two questions allowed for a variety of responses outside the textual information, apparently because of the students' familiarity with the subject--kittens. A main idea question on the second grade level brought an unexpected response from most of the children, apparently because of the greater impact on these young children of the mention of a lion tamer and lion in the story rather than the overall topic of going to the circus. An inference question on the third grade level also was answered with divergent responses, apparently because of children's focus on the topic Halloween and perhaps because the detail for drawing the inference was found in the first sentence of the story.

Teachers in this second group were graduate students enrolled in the researcher's reading testing course. Two students not actively teaching tested children referred by classroom teachers for comprehension difficulty. As a part of the data collection process

for course requirements, this group also administered the Wisconsin Tests of Reading Skill Development: Comprehension (Otto, 1977) to these same students. Data were gathered during November, 1980.

The informal reading inventory used by these students was the Sucher-Allred Reading Placement Inventory (Sucher & Allred, 1973). At least one question on this instrument was non-discriminating. An inference question on the second reader level was reported missed by all of the nine students asked it.

Some analysis of comprehension strategies was made by thirteen of the graduate students on 26 children at the following grade levels: seven students at second grade, six students at third grade, seven students at fourth grade, four students at fifth grade, and two students at sixth grade.

Results and Discussion

A great diversity in description was used by teachers to explain miscomprehension, making clearly identifiable categories difficult. Essentially the same words were used by thirteen teachers in the first group to identify lack of knowledge of the key vocabulary in the story as a miscomprehension response. Only one teacher in the second group identified this as a strategy. Seven teachers indicated that the child's own experience caused him to miscomprehend while one teacher in the second group clearly described this as a strategy. Teachers in both groups tended to describe the miscomprehension strategies of both children they tested in the same terms, even when differences were noted, such as "misses context

clues" for Child 1 and "uses some context clues but missed some" for Child 2. Word recognition difficulties and description of the miscomprehension in terms of the kind of question missed were identifiable. Although described in varying terms, it appeared that many teachers analyzed the child's comprehension strategies relative to individual reader characteristics.

It was decided to test the "usefulness" of these apparent categories and the miscomprehension strategies suggested by Strange as they related to these teachers' miscomprehension explanations.

Independent analyses of teachers' explanatory comments related to these categories were made by the researcher, a university teacher of undergraduate and graduate reading methods courses, and a graduate student clinician teaching undergraduate reading courses. Meetings among the raters sought to resolve any differences of opinion.

After thorough familiarization with the categories, the raters showed marked agreement on the classification of the teacher explanations. Some categories suggested by Strange seemed by the raters to require modification, not only to mesh with teacher categories, but to better describe the responses being made by children. These modifications will be delineated along with discussion of the tabulation of teacher explanations for each category. A strategy identified by an individual teacher was counted only once although, as noted, categories were frequently repeated by individual teachers.

The following five categories were generated from teacher explanations.

A) Word Recognition: The child's comprehension is affected by word recognition difficulties.

That 22 teachers delineated word recognition problems for students supposedly selected because of good word recognition but poor comprehension highlights their difficulty in isolating a "pure" comprehension disability. Teachers also related problems in identifying such students with their testing; their choices were frequently not confirmed by testing, necessitating other choices. This category also appeared affected by teachers' analyses of students' reading of selections at frustration level, not only related to comprehension criteria but also word pronunciation criteria. Because many teachers provided only a summary statement for miscomprehension strategies and also did not clearly indicate what they determined as the instructional level, it was decided to tabulate all teacher responses fitting in this category.

B) Question Type: The strategy employed by the reader is described in terms of the kind of question miscomprehended.

The 26 teachers who focused on the kind of question missed used comments such as "missed two getting fact" and "problems with literal comprehension and sequencing." The delineation of question types in both of the instruments used, as well as in the Wisconsin Test used by the second group, probably contributed to analyses indentifying question types miscomprehended.

C) Non-Specific: The explanation given provides no insight into the reasoning strategies used by the reader.

This category was selected for 26 teacher responses which lacked definitiveness, such as "poor recall" and "does not remember specific parts from story read."

D) Inhibiting reader characteristics: Personality traits, emotional or cognitive skills such as inferential thinking in non-reading situations explains the miscomprehension.

"Somewhat unsure of herself" and "often comes out with strange conclusions" are examples of these 17 categories of analysis.

E) Inhibiting task strategies: The reader's approach to the task interferes with comprehension. Extremely rapid reading, lack of concentration on the reading task, or a view of reading as only calling words are constraints affecting comprehension.

Nineteen teachers cited explanations that appeared to fit here, including "reading too fast and omitting known words" and "did not give much thought to giving titles."

The following seven categories were suggested by Strange (1980) as explanations for miscomprehension by children when a story is discussed with them.

1) No existing schema: A very real possibility, especially with young children, is that they lack certain critical schemata with which to understand a story. This is also a possibility when a story assumes a particular cultural background and the readers' cultural background is different.

This category meshed with many of the "lack of key vocabulary" categories. These fourteen categories included "didn't understand meaning of 'land forms'" and "no experience with spaceship."

2) Naïve schema: In some cases readers may have the beginnings of appropriate schemata, but they are not sufficiently developed to allow for the events in a story. Imagine, for example, a child whose schema for restaurant only includes fast food restaurants reading about the misadventures of a waiter at a four-star French restaurant.

Other explanations for vocabulary deficiencies given by seven teachers seemed to the raters to fit better here, such as "understood 'suction' to a small degree but could not use meaning to a new situation or reference point."

3) No new information: Some children will have well developed schemata, and a particular story may provide nothing that is not already accounted for by the child's schema. This is often the case when reading about very common experiences. The details that make up the experience are lost since they are predictable and well understood.

While no teacher categories fit clearly here, the raters' views were that many of children's miscomprehended responses would fit in this category if expanded to include "details that did not impact on the main point of the story for the child." This would include the child's response, for example, of "Sunday" instead of "Saturday" as the day the child in the story was going to the cir-

cus.

4) Poor story: In some children's stories the appropriate schemata are not sufficiently cued to assist the child in integrating them in order to achieve full understanding. In basal readers, where the authors work within the constraints of a controlled vocabulary and limited word analysis skills, it is not always possible to develop the necessary schemata fully.

The raters felt that this category should also include "poor question" with an emphasis on the child responding to the story or question. This would thus include stories which did not interest the reader and questions the reader did not understand. Based on this expansion, eight teachers appeared to identify this category with analyses such as "didn't understand way questions were stated, especially those that were lengthy." Those questions that almost all children miscomprehended could also be included in this category.

5) Many schemata appropriate: Many stories allow the reader to bring different schemata to bear on the episodes involved. This results in different interpretations for the same events. In certain cases, each of these interpretations is appropriate if we understand the prior experiences of the reader. Different interpretations of the Bible are good examples of this possibility.

This category was selected as appropriate for the seven teachers who made statements such as "maybe this is what excites him" and "drawing from own background."

6) Schema intrusion: Pearson (1978) calls this scriptal intrusion, but again, for the sake of consistency, I will call it schema intrusion. This occurs when the response to a question comes from the child's head and no plausible line of reasoning connects it to the story. The response is merely wrong.

The raters also thought this category should be modified to be useful, based on the acutal responses children gave. When the child answered because of a schema intrusion, a "plausible line of reasoning" was usually in operation. For example, the child's response that hens in the story were "clucking" for food, rather than because the fox was there as told in the story, was found to live on a chicken farm, making her "wrong" response plausible. Only two teachers appeared to use this category with "just used own logic" as an example.

7) Textual intrusion: Pearson suggests that this is another type of response that can be considered wrong. In this case, a child seems to overrespond to one or more words in the text. The child's response is based on the text, but no plausible line of reasoning connects the question and the response.

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Summary and Conclusions

Difficulty with key vocabulary appeared the most identifiable miscomprehension strategy, from teacher analyses and as raters categorized explanatory comments relative to Strange's categories of miscomprehension. Such a focus is consonant with the schema theory of comprehension: "Schema theory suggests that vocabulary instruction should be given greater emphasis than it currently is" (Strange, p. 394).

Other explanations for miscomprehension suggested by teachers appeared unrelated to the schema theory, with a focus on word recognition, the nature of the question students missed, and a third general category for explanations that lacked definitiveness in explanation. Such categories suggest the need for analyses of miscomprehension that can be clearly linked with appropriate instruction.

A focus on learner characteristics and the learner's perception of reading, if valid, suggests a need for individualization in comprehension instruction.

Other categories for miscomprehension relevant to the schema theory proved less useful although all evidenced some usefulness, according to the raters. Their experience in analyzing reader responses and teacher explanations for miscomprehension suggests this procedure as a valuable activity by which teachers may become more alert to and cognizant of the reasoning strategies their students employ when responding to questions.

The usefulness of all categories combined with the large number of non-definitive explanations made by teachers suggests that teachers be supplied with miscomprehension strategies before they analyze students' responses to questions. Such a procedure may engender greater specificity as teachers analyze readers' reasoning processes.

An unexpected finding suggested by the study was the necessity of extensive testing when developing informal reading inventory questions that validly assess comprehension. Teachers'ready acceptance of non-discriminating questions suggests the need for a more critical approach by teachers to the questions asked in informal reading inventories and those asked of children in the daily reading lesson. A greater range of acceptable answers in IRI's and basal reader manuals appears needed.

This study was viewed as exploratory. For definitive categories explaining miscomprehension,feedback should continue to be gathered as children are assessed and instructed.

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